

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	09/770,669 Examiner LAM S NGUYEN	HAYASAKI, KIMIYUKI Art Unit 2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) Responsive to communication(s) filed on 27 January 2003.
- 2a) This action is FINAL.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) Claim(s) 1-15, 17-28, 30-35, 40, 42-45, 47, 48, 50, 51, 53 and 54 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) 1-6, 22-24, 35, 45, 48, 51, 54 and 323 is/are allowed.
- 6) Claim(s) 7-15, 17-21, 25-28, 30-31, 40, 42-44, 47, 50, 53 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 29 January 2001 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/770,669	01/29/2001	Kimiyuki Hayasaki	862.C2094	7044

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EXAMINER
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NGUYEN, LAM S

ART UNIT	PAPER NUMBER
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2853

DATE MAILED: 04/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 7-9, 15, 25-28, 40, 47, 50, 53 are rejected under 35 U.S.C. 102(e) as being anticipated by Tokura et al. (US 6172701).

Tokura et al. disclose a printhead comprising:

a plurality of printing elements for printing (Abstract: LED elements);  
a block selection circuit that outputs a selection signal for selecting a block comprising a plurality of printing elements (FIG. 3: SCAN SHIFT REGISTER and SCAN CIRCUIT constitute a selecting block unit to select a block of printing elements (FIG. 2, element 3-1 to 3-16));

printing control circuit (Fig. 3, elements 12-13) which outputs a driving signal (FIG. 3: the outputs of the DRIVE CIRCUIT 13 or FIG. 2, signals 4-1 to 4-16) for selectively driving said printing elements, together with the selection signal (FIG. 2, signals 3-1 to 3-16), to each of said printing elements in correspondence with image data (FIG. 2); and

an input portion, which receives external image data to be input to said printing control circuit (FIG. 3: PRINTING DATA SHIFR REGISTER),

**Referring to claims 7, 25: wherein said input portion is adapted to receive the image**

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data in a bus format of a plurality of bits (FIG. 4, element DI1-DI4), and the input portion includes a shift register for sequentially shifting the received image data with the same number of bits as the bus format (FIG. 4, element 11).

**Referring to claims 8, 9, 26-27:** wherein said input portion is adapted to parallelly receive the image data over a plurality of signal lines in units of 4 bits (FIG. 3, elements DI1-DI4).

**Referring to claims 15, 28, 40, 47, 50, 53:** wherein said input portion is adapted to continuously receive the image data (FIG. 6, elements "Printing data") and data for setting a printing element driving time (FIG. 6, elements "Light Quantity Correction Data") through common signal lines in the same bus format (FIG. 6: elements DI1-DI4) from outside of the printhead.

#### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 10-14, 17-21, 30-31, 42-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tokura et al. (US 6172701) in view of Markham (US 5907331).**

Tokura et al. disclose the claimed invention as discussed above except that (**Referring to claims 10, 17, 30, 42**) wherein said input portion is adapted to receive data to be input to said block selection circuit having a decoder (**Referring to claims 12, 19**) together with the image data, (**Referring to claims 11, 18, 31, 43**) wherein said input portion is adapted to continuously

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receive the image data and data to be input to said block selection circuit, (**Referring to claims 13-14, 20, 21, 44**) and wherein each of said printing elements performs printing using heat energy and wherein each of said printing elements performs printing by discharging ink.

Markham discloses a printhead including an input portion adapted to receive data to be input to said block selection circuit together with the image data (FIG. 3, element DATA and MODE and See Abstract), (**Referring to claims 18, 31, 43**) wherein said input portion is adapted to continuously receive the image data and data to be input to a block selection circuit having a decoder (Fig. 3, element 36), and (**Referring to claims 20, 21, 44**) wherein each of said printing elements performs printing using heat energy and wherein each of said printing elements performs printing by discharging ink (FIG. 3, elements Q0-Q16).

Therefore, it would have been obvious for one having ordinary skill in the art at the time the invention was made to adapt the input portion of the printhead disclosed by Tokura et al. to receive the block selection data together with the image data as disclosed by Markham. The motivation of doing so is to provide a printhead having circuitry which enables the selection of the various print modes by sending certain mode signals to the printhead circuitry along with image data signals as taught by Markham (column 1, line 44-49).

***Allowable Subject Matter***

2. Claims 1-6, 22-24, 32-35, 45, 48, 51, and 54 are allowed.

**Referring to claims 1, 22, and 32:** The most pertinent arts Markham (US 5907331) and Tokura et al. (US 6172701) fail to disclose wherein said input portion is adapted to receive the image data and block selection data input to said block selection circuit through common signal

lines in a bus format of a plurality of bits from outside of the printhead. Therefore, the claimed invention is not disclosed by the cited prior art.

**Referring to claims 5-6, 23-24, 33-35, 45, 48, 51, and 54:** Allowed since their dependence on the allowed claims 1, 22, 32.

***Response to Arguments***

Applicant's arguments with respect to claims 7, 15, 25, 28, 40 have been considered but are moot in view of the new ground(s) of rejection.

**Regarding to the argument on page 14 referring to claims 7 and 25:** The applicants argued that Markham and Kojima et al. fail to disclose that an input portion of a printhead includes a shift register for sequentially shifting received image data with the same number of bits as a bus format. However, as discussed above, Tokura et al. disclose this limitation. Therefore, these claims are unpatentable.

**Regarding to the argument on page 15 referring to claims 15, 28, and 40:** The applicants argued that Markham and Kojima et al. fail to disclose that the continuous receiving image data and data for setting a printing element driving time through common signal lines. However, as discussed above, Tokura et al. disclose this limitation. Therefore, these claims are unpatentable.

**Regarding to the argument on page 16 referring to claims 8-14, 17-21, 26-27, 30-31, 42-44, 47, 50, 53:** Since these claims depend on the rejected claims 7, 15, 25, 28, and 40 and these claims are rejected as disclosed by the cited prior arts. Therefore, these claims are also unpatentable.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAM S NGUYEN whose telephone number is (703)305-3342. The examiner can normally be reached on 7:00AM - 3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JOHN E BARLOW can be reached on (703)308-3126. The fax phone numbers for the organization where this application or proceeding is assigned are (703)305-3431 for regular communications and (703)305-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

LN  
April 1, 2003

*Judy Nguyen*  
JUDY NGUYEN  
PRIMARY EXAMINER